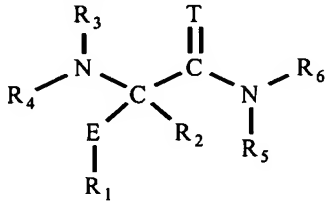
WHAT IS CLAIMED IS:

1. A pharmaceutical or medicament comprising as an active ingredient, with or without other active ingredients, a compound of formula A:

(A) 

or a pharmaceutically acceptable salt, amide, or ester thereof;

wherein

a) E is selected from the group consisting of oxygen, sulfur, and NR_7;

b) T is selected from the group consisting of oxygen, sulfur, and NR_8;

c) R_1-R_8 are each independently selected from the group consisting of hydrogen; optionally substituted alkyl; optionally substituted alkenyl; optionally substituted alkynyl; optionally substituted cycloalkyl; optionally substituted heterocyclyl; optionally substituted cycloalkylalkyl; optionally substituted heterocyclylalkyl; optionally substituted aryl; optionally substituted heteroaryl; optionally substituted alkylcarbonyl; optionally substituted alkoxyalkyl; and optionally substituted perhaloalkyl; wherein said compound is in an amount effective to inhibit HIV replication.

2. The pharmaceutical or medicament of claim 1, wherein E is oxygen.

3. The pharmaceutical or medicament of claim 1, wherein T is oxygen.

4. The pharmaceutical or medicament of claim 1, wherein said heterocyclyl is selected from the group consisting of tetrahydrothiopyran, 4*H*-pyran, tetrahydropyran, piperidine, 1,3-dioxin, 1,3-dioxane, 1,4-dioxin, 1,4-dioxane, piperazine, 1,3-oxathiane, 1,4-oxathiin, 1,4-oxathiane, tetrahydro-1,4-thiazine, 2*H*-1,2-oxazine , maleimide, succinimide, barbituric acid, thiobarbituric acid, dioxopiperazine, hydantoin, dihydrouracil, morpholine, trioxane, hexahydro-1,3,5-triazine, tetrahydrothiophene, tetrahydrofuran, pyrroline, pyrrolidine, pyrrolidone, pyrrolidione, pyrazoline, pyrazolidine, imidazoline, imidazolidine, 1,3-dioxole, 1,3-dioxolane, 1,3-dithiole, 1,3-dithiolane, isoxazoline,

isoxazolidine, oxazoline, oxazolidine, oxazolidinone, thiazoline, thiazolidine, and 1,3-oxathiolane.

5. The pharmaceutical or medicament of claim 1, wherein said heteroaryl is selected from the group consisting of furan, benzofuran, thiophene, benzothiophene, pyrrole, pyridine, indole, oxazole, benzoxazole, isoxazole, benzisoxazole, thiazole, benzothiazole, isothiazole, imidazole, benzimidazole, pyrazole, indazole, tetrazole, quionoline, isoquinoline, pyridazine, pyrimidine, purine, pyrazine, furazan, 1,2,3-oxadiazole, 1,2,3-thiadiazole, 1,2,4-thiadiazole, triazole, benzotriazole, pteridine, phenoxazole, oxadiazole, benzopyrazole, quinolizine, cinnoline, phthalazine, quinazoline, and quinoxaline.

6. The pharmaceutical or medicament of claim 1, wherein said aryl is selected from the group consisting of phenyl, naphthalenyl, phenanthrenyl, anthracenyl, tetralinyl, fluorenyl, indenyl, and indanyl.

7. The pharmaceutical or medicament of claim 1, wherein said cycloalkyl is selected from the group consisting of cyclopropane, cyclobutane, cyclopentane, cyclopentene, cyclopentadiene, cyclohexane, cyclohexene, 1,3-cyclohexadiene, 1,4-cyclohexadiene, cycloheptane, cycloheptene.

8. The pharmaceutical or medicament of claim 1, wherein R_1 is selected from the group consisting of hydrogen; C_{1-6} alkyl; C_{2-6} alkenyl; C_{2-6} alkynyl; C_{3-8} cycloalkyl; C_{3-8} heterocyclyl; cycloalkyl(C_{1-6})alkyl; heterocyclyl(C_{1-6})alkyl; aryl; heteroaryl; (C_{1-6})alkylcarbonyl; (C_{1-6})alkoxy(C_{1-6})alkyl; and perhalo(C_{1-6})alkyl.

9. The pharmaceutical or medicament of claim 8, wherein said alkyl is selected from the group consisting of methyl, ethyl, propyl, n-butyl, sec-butyl, and tert-butyl.

10. The pharmaceutical or medicament of claim 8, wherein R_1 is hydrogen.

11. The pharmaceutical or medicament of claim 1, wherein R_2 is selected from the group consisting of hydrogen; C_{1-6} alkyl; C_{2-6} alkenyl; C_{2-6} alkynyl; C_{3-8} cycloalkyl; C_{3-8} heterocyclyl; cycloalkyl(C_{1-6})alkyl; heterocyclyl(C_{1-6})alkyl; aryl; heteroaryl; (C_{1-6})alkylcarbonyl; (C_{1-6})alkoxy(C_{1-6})alkyl; and perhalo(C_{1-6})alkyl.

12. The pharmaceutical or medicament of claim 11, wherein said alkyl is selected from the group consisting of methyl, ethyl, propyl, n-butyl, sec-butyl, and tert-butyl.

13. The pharmaceutical or medicament of claim 11, wherein R_2 is hydrogen.

14. The pharmaceutical or medicament of claim 1, wherein R_3-R_6 are each independently selected from the group consisting of hydrogen; C_{1-6} alkyl; C_{2-6} alkenyl; C_{2-6} alkynyl; C_{3-8} cycloalkyl; C_{3-8} heterocyclyl; cycloalkyl(C_{1-6})alkyl; heterocyclyl(C_{1-6})alkyl; aryl; heteroaryl; (C_{1-6})alkylcarbonyl; (C_{1-6})alkoxy(C_{1-6})alkyl; and perhalo(C_{1-6})alkyl.

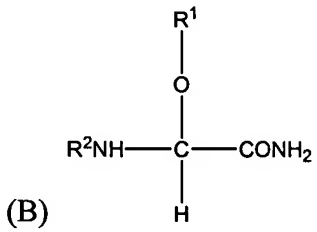
15. The pharmaceutical or medicament of claim 14, wherein said alkyl is selected from the group consisting of methyl, ethyl, propyl, n-butyl, sec-butyl, and tert-butyl.

16. The pharmaceutical or medicament of claim 14, wherein R_3-R_6 are hydrogen.

17. The pharmaceutical or medicament of claim 1, wherein R_7 and R_8 are each independently selected from hydrogen and C_{1-6} alkyl.

18. The pharmaceutical or medicament of claim 17, wherein R_7 and R_8 are hydrogen.

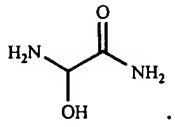
19. The pharmaceutical or medicament of Claim 1, wherein said compound is the compound of formula B:



(B)

wherein, R^1 is a hydrogen atom, a lower alkyl group, a lower alkenyl group, a lower alkynyl group, a benzyl group, or a silyl group substituted with an alkyl group or an alkyl group and an aromatic group and R^2 is a hydrogen atom or an amino protecting group, or a salt thereof.

20. The pharmaceutical or medicament of Claim 19, wherein said compound is the compound of formula C:

(C) 

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21. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament further comprises a pharmaceutically acceptable carrier.
22. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is formulated for oral administration.
23. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is a septum sealed vial comprising said compound.
24. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is a syringe comprising said compound.
25. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is a unit dosage form.
26. The pharmaceutical or medicament of Claim 25, wherein said unit dosage form is a tablet, capsule, gelcap, or powder.
27. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is a container comprising a certification that said pharmaceutical or medicament is a good manufacturing practice (GMP) formulation.
28. The pharmaceutical or medicament of Claim 20, wherein said pharmaceutical or medicament is a container comprising indicia reflecting approval of a governmental agency.
29. A method of making the pharmaceutical or medicament of Claim 20 comprising:

providing G-NH_2;

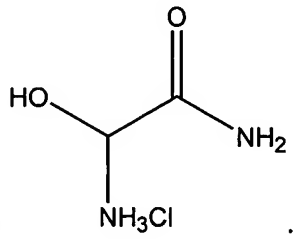
contacting said G-NH_2 with a material that converts said G-NH_2 to the compound of formula C; and formulating said compound of formula C into said medicament or pharmaceutical.
30. The method of Claim 29, wherein said material that converts said G-NH_2 to the compound of formula C is serum or plasma.
31. The method of Claim 30, wherein said serum or plasma is obtained from a pig, a horse, a dog, or a cat.
32. The method of Claim 29, wherein said material that converts said G-NH_2 to the compound of formula C is a compound obtained from serum or plasma.

33. The method of Claim 32, wherein said serum or plasma is obtained from a pig, a horse, a dog, or a cat.

34. A method of using the pharmaceutical or medicament of Claim 20 to inhibit the replication of human immunodeficiency virus (HIV) comprising identifying a subject in need of a compound that inhibits replication of HIV and providing to said subject the pharmaceutical or medicament of Claim 20 in an amount sufficient to inhibit the replication of HIV.

35. The method of Claim 34, further comprising measuring the inhibition of replication of HIV.

36. The pharmaceutical or medicament of Claim 19, wherein said compound is the compound of formula D:



(D) .

37. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament further comprises a pharmaceutically acceptable carrier.

38. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is formulated for oral administration.

39. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is a septum sealed vial comprising said compound.

40. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is a syringe comprising said compound.

41. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is a unit dosage form.

42. The pharmaceutical or medicament of Claim 36, wherein said unit dosage form is a tablet, capsule, gelcap, or powder.

43. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is a container comprising a certification that said pharmaceutical or medicament is a good manufacturing practice (GMP) formulation.

44. The pharmaceutical or medicament of Claim 36, wherein said pharmaceutical or medicament is a container comprising indicia reflecting approval of a governmental agency.

45. A method of making the pharmaceutical or medicament of Claim 36 comprising:

preparing methyl glyoxylate hemiacetal by reacting glyoxylic acid monohydrate in methanol;

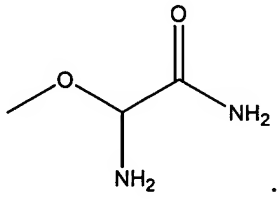
reacting said methyl glyoxyate hemiacetal with tert-butyl carbamate so as to obtain methyl N-tertbutoxycarbonyl-α-hydroxyglycinate;

reacting said methyl N-tertbutoxycarbonyl-α-hydroxyglycinate with ammonia so as to obtain N-tertbutoxycarbonyl-α-hydroxyglycinamide; and reacting said N-tertbutoxycarbonyl-α-hydroxyglycinamide in hydrochloric acid and dioxane so as to obtain the compound of formula D; and formulating said compound into said pharmaceutical or medicament.

46. A method of using the pharmaceutical or medicament of Claim 36 to inhibit the replication of human immunodeficiency virus (HIV) comprising identifying a subject in need of a compound that inhibits replication of HIV and providing to said subject the pharmaceutical or medicament of Claim 36 in an amount sufficient to inhibit the replication of HIV.

47. The method of Claim 46, further comprising measuring the inhibition of replication of HIV.

48. The pharmaceutical or medicament of Claim 19, wherein said compound is the compound of formula G:

(G) 

49. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament further comprises a pharmaceutically acceptable carrier.

50. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is formulated for oral administration.

51. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is a septum sealed vial comprising said compound.

52. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is a syringe comprising said compound.

53. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is a unit dosage form.

54. The pharmaceutical or medicament of Claim 48, wherein said unit dosage form is a tablet, capsule, gelcap, or powder.

55. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is a container comprising a certification that said pharmaceutical or medicament is a good manufacturing practice (GMP) formulation.

56. The pharmaceutical or medicament of Claim 48, wherein said pharmaceutical or medicament is a container comprising indicia reflecting approval of a governmental agency.

57. A method of making the pharmaceutical or medicament of Claim 48 comprising:

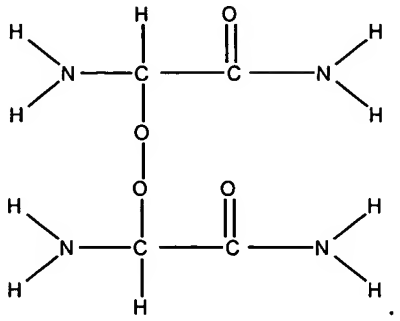
preparing methyl N-(9H-Fluoren-9-ylmethoxycarbonyl)-α-methoxyglycinate by reacting glyoxylic acid monohydrate and 9H-fluoren-9-ylmethyl carbamate;

reacting said methyl N-(9H-Fluoren-9-ylmethoxycarbonyl)-α-methoxyglycinate with ammonia and morpholine so as to obtain the compound of formula G; and formulating said compound into said pharmaceutical or medicament.

58. A method of using the pharmaceutical or medicament of Claim 48 to inhibit the replication of human immunodeficiency virus (HIV) comprising identifying a subject in need of a compound that inhibits replication of HIV and providing to said subject the pharmaceutical or medicament of Claim 48 in an amount sufficient to inhibit the replication of HIV.

59. The method of Claim 58, further comprising measuring the inhibition of replication of HIV.

60. The pharmaceutical or medicament of Claim 19, wherein said compound is the compound of formula E:

(E) 

61. The pharmaceutical or medicament of Claim 19, wherein said compound is the compound of formula F:

(F)